



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,519	04/12/2004	Stephen W. Armstrong	SOU03 P-128A	3348
28101 7590 02/22/2008 VAN DYKE, GARDNER, LINN & BURKHART, LLP SUITE 207 2851 CHARLEVOIX DRIVE, S.E. GRAND RAPIDS, MI 49546			EXAMINER NGUYEN, TUAN DUC	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 02/22/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/822,519

Applicant(s)

ARMSTRONG ET AL.

Examiner

Tuan D. Nguyen

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-23 is/are allowed.
- 6) ☒ Claim(s) 1, 3-14, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/13/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-6, 9-14, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent number 6,144,748 (Kerns).
Regarding claim 1, Kerns discloses a hearing instrument (figures 2-5), comprising: at least one hearing instrument microphone (225) for receiving an audio input signal; a sound processor (211,213) for processing the audio input signal to compensate for a hearing impairment and generate a processed audio signal; at least one hearing instrument receiver (227) for converting the processed audio signal into an audio output signal; and a serial data port (244, column 3 lines 13-20) for coupling the hearing instrument to an external device (240) separate from the hearing instrument, the serial data port being operable to communicate bidirectional digital audio signals between the hearing instrument and the external device, wherein the serial data port may be coupled to the external device to transmit at least one of the audio input signal, the processed audio signal and the audio output signal to the external device;

and selection circuitry (213) operable to select at least one of the audio input signal, the processed audio signal and the audio output signal for transmission to the external device via the serial data port.

Regarding claim 3, Kerns discloses a hearing instrument (figures 2-5), comprising: at least one hearing instrument microphone (225) for receiving an audio input signal; a sound processor (211, 213) for processing the audio input signal to compensate for a hearing impairment and generate a processed audio signal; at least one hearing instrument receiver (227) for converting the processed audio signal into an audio output signal; a serial data port (244, column 3 lines 13-20) for coupling the hearing instrument to an external device separate from the hearing instrument, the serial data port being operable to communicate bidirectional digital audio signals between the hearing instrument and the external device, wherein the serial data port may be coupled to the external device to transmit at least one of the audio input signal, the processed audio signal and the audio output signal to the external device; and selection circuitry (213) operable to select at least one of the audio input signal, the processed audio signal and the audio output signal for transmission to the external device via the serial data port, wherein the hearing instrument is operable to receive a control signal for the selection circuitry, wherein the selection circuitry selects at least one of the audio input signal, the processed audio signal and the audio output signal based on the control signal.

Regarding claim 4, Kerns also shows wherein the control signal is received from the external device via the serial data port. (see figure 2).

Regarding claim 5, Kerns discloses wherein the selection circuitry includes a multiplexer (function as a multiplexer, column 3 lines 13-56 and column 4 lines 1-8).

Regarding claim 6, Kerns further shows wherein the selection circuitry is operable to select at least one additional audio signal from one or more hearing instrument nodes for transmission to the external device via the serial data port (see figure 2).

Regarding claim 9, Kerns also disclose wherein the external device is a monitoring device (column 1 lines 17-22).

Regarding claim 10, Kerns discloses wherein the external device is a recording device (column 2 lines 57-65).

Regarding claim 11, Kerns also disclose wherein the external device is a second hearing instrument (column 1 lines 17-22).

Regarding claim 12, Kerns discloses wherein the serial port may be coupled to the external device to inject an external audio signal into one or more hearing instrument nodes (see figure 2).

Regarding claim Kerns also shows wherein the hearing instrument nodes include an output of the hearing instrument microphone and an output of the sound processor (see figure 2).

Regarding claim 14, Kerns further discloses a selection circuitry (241) operable to select at least one of the hearing instrument nodes and couple the serial data port to the selected hearing instrument node for injecting the external audio signal into the selected hearing instrument node.

Regarding claim 24, Kerns discloses a hearing instrument (figures 2-3), comprising: at least one hearing instrument microphone (225) for receiving an audio input signal; a sound processor (211, 213) for processing the audio input signal to compensate for a hearing impairment and generate a processed audio signal; at least one hearing instrument receiver (227) for converting the processed audio signal into an audio output signal; a serial data port (244, column 3 lines 13-20) for coupling the hearing instrument to an external device (240) separate from the hearing instrument, the serial data port being operable to transmit first and second digital audio signals between the hearing instrument and the external device; and selection circuitry operable to select one of the first and second digital audio signals for transmission to the external device via the serial data port (column 2 lines 57-65).

Regarding claim 25, Kerns also shows wherein said first digital audio signal is one of said audio input signal, said processed audio signal, and said audio output signal, and wherein said second digital audio signal is another one of said audio input signal, said processed audio signal, and said audio output signal (see figures 2-3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent number 6,144,748 (Kerns).

Regarding claims 7 and 8, Kerns does not disclose wherein the external device is a computer or computer network.

However, Kerns does not restrict to a specific external device (column 1 lines 17-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify a digital interface by Kerns for communicating with an external devices such as computer or computer network.

Allowable Subject Matter

5. Claims 15-23 are allowed. The prior art of record fails to show claim 15, an outer microphone for receiving a first audio signal from outside of the patient's ear canal; an inner microphone for receiving a second audio signal from inside of the patient's ear canal; and a serial data port for

coupling the digital hearing instrument to an external device, the serial data port being configured to transmit the second audio signal to the external device and combined with all the limitations of claim 15.

Claims 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan D. Nguyen whose telephone number is (571) 272-8163. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

TDN
2/6/08